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GLEANNINGS

IN BEE CULTURE

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 AND HONEY
 AND HOME
 INTERESTS.

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 SEMI-MONTHLY

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TO SCRAPE bees thoroughly is not such a very big job, says H. H. Hyde, p. 1068, for one man can easily clean from 25 to 50 colonies a day. I wish my good Texan friend would tell us how much of the bee he scrapes. If he means just the hind legs, he'd have a busy time getting through with 50 colonies in a day; but if the bees are scraped all over, even 25 colonies would be too many.

ILLINOIS bee-keepers, at their State convention, voted unanimously that they wanted their bees taxed. They wisely argued that they couldn't expect favors from the State legislature for the benefit of something that wasn't taxable property. I think there's a better argument even than that—common honesty. We expect the law to protect property in bees as well as in horses; why not tax one as well as the other? [Bees are taxed in this State, and I do not know why they should not be taxed the same as any other property, and be recognized in law as such.—ED.]

YE EDITOR wants to know, page 1056, "whether honey does contain food elements that the bees really need, not found in the sugar syrup." I think that the authorities agree in general with Reidenbach's statement that honey contains from one to three per cent of nitrogenous matter, while sugar contains only a trace. But the question might still be raised whether bees can not get along very well with sugar if they have plenty of pollen available. [In the quotation referred to I did not quite convey the meaning I had in mind. If you put the word *necessary* before the word *food* it will clear up the statement. Of course, I knew that honey contained other food elements than those found in sugar syrup; but the question was whether those other elements were nec-

essary. I am inclined to think they are not, for reports for many years back have shown that sugar syrup was preferable to honey, as a rule.—ED.]

"THAT 'hermetically sealed' cover must be pried ever so carefully if one would avoid that fatal snap as it leaves the hive," says R. Wueste, p. 1069. What sort of climate have you in California, anyhow, friend Wueste, that makes it cold enough for propolis to snap? Up here it snaps only when it's too cold to work with bees. Neither do the bees on the cover offer fight. Just dump the end of the cover on the ground in front of the hive, and the bees scud for the entrance.

LEIPZ. BZTG. says that this year's honey is darker than the honey of other years, the cause being the excessively dry weather that ruled for months. Does dry weather make honey darker here? I think L. L. Andrews says that in his part of California alfalfa honey is amber. Why dark there and so very light in Colorado? Weather, soil, or what? [I have noticed that, in dry years, comb honey looks more water-soaked. I presume it is owing to the fact that honey, when it does come in, comes very slowly, and the bees are a long while in sealing it. I do not know whether dry seasons affect the color of extracted honey or not. We should be pleased to have reports.—ED.]

WM. M. WHITNEY, p. 1070, quotes me as saying that bee-keeping would never become as reliable as other agricultural pursuits till the bee-keeper could have some legal rights in the case; and then he says the time will never come when a bee-keeper will have legal protection as an exclusive occupant of a given territory. Well, then, the pursuit will never become very stable and reliable, will it, friend Whitney? You then proceed to say, "no sane person would contend for a moment that an owner would not have a right to cut his basswood timber," alfalfa, etc. Of course not; who ever thought of such a thing? But what has that to do with the case? The question is, don't you think you would feel you were in a more stable business if you could be sure that no other

bees would be set down within a certain distance of yours?

"NECTAR gathered by the bees from flowers, and deposited in wax cells," is given as government definition of honey, p. 1063. If I am not mistaken, I saw a few days ago a government document in which honey was defined as obtained from flowers and other parts of plants. [There are two or three definitions for honey; but the government document you refer to in the last sentence reads thus: "from flowers and from the exudations of plants." The question is, whether or not honey should not be limited to the nectar of flowers only, gathered and stored by the bees. Chemist Selser, of Philadelphia, believes that nothing else should be recognized as honey. This will simplify the work of the chemist, and prevent the bee-keeper from putting on the market honey-dew honey and other honeys so called, of doubtful source.—ED.]

INOCULATED soil is mentioned, p. 1077, as being offered for sale; but I wish you had told us, friend A. I., at what price. I wonder if there isn't a little bit of humbug somewhere about this offering for sale specific bacteria for each different crop. Please remember that, where any crop has been successfully grown, the proper bacteria are already there. The inoculating matter is needed only for some new plant that you have not already grown. For example, on ground where alfalfa has never been grown the special bacteria are needed. Fortunately, however, the experiment stations have proved that the bacteria of sweet clover are identical with alfalfa bacteria, so land where sweet clover grows well doesn't need any inoculation for alfalfa. The Illinois Experiment Station (other experiment stations likely do the same) furnishes enough infected soil to inoculate an acre of ground for alfalfa at a charge of 50 cents, if I remember correctly. Do the circulars mentioned cut under that price? [The price, doctor, was \$2.00 for enough of the stuff, whatever it was, to inoculate an acre of ground; and there was quite a list of plants to be inoculated, including garden vegetables. I pronounced it a humbug at once—that is, when they undertook to send the exact bacteria that would increase a crop of wax beans or any other legume wonderfully, and that each vegetable needed a different "concoction." The circular was very ingeniously made up of extracts from reports of different experiment stations to prove that their stuff was the genuine thing; but, of course, no experiment station pretended to indorse that particular institution.—A. I. R.]

DR. BURRI, the Swiss bacteriologist, says in *Schweiz. Bztg.* that there are in Switzerland at least two different kinds of bacilli that produce foul brood, and in the treatment regard must be had to the kind of bacilli present. But it is a question whether, under the designation of "foul brood," the Swiss do not include more than we do, for on the same page we are told that it includes

"stinking foul brood, non-stinking foul brood, and sour brood." [Possibly the term foul brood in other countries takes in all forms of dead brood that is foul, ropy, or gelatinous. But I think Mr. Cowan, of the *British Bee Journal*, considers the real foul brood as referring to *Bacillus alvei* only; and, if I am correct, that is the understanding of the bacteriologists of this country. There is no doubt at all that there are more than one form of microbe that causes brood to die. The germs that produce black brood are very different from those that produce foul brood, although the York State bacteriologists seem to have made some confusion somewhere by calling black brood foul brood, and foul brood black brood.—ED.]

YOU FELLOWS that don't need to cellar your bees should be thankful you don't have to "rassel" with the troublesome problems of the right time to take bees in. We've had fine fall weather till about the third week of November. Then a few mornings with the thermometer 22 to 25 degrees came. That cold spell made it important that the bees should have another flight before going in. But if I waited for them to fly I might wait till spring. As the darkey said, "Doubtful things mighty onsartin, massa." Nov. 14, Clark began carrying in; but by the time 39 were in, it looked so promising for a warmer time that he stopped. The promise was fulfilled, and there were several summery days, the bees flying briskly. Nov. 19 the last of the bees went in. Since then there has been flying weather but no bees out in it. I'm not grieving over that, except that I wish that first 39 had gone in a week sooner or a day later. [Our bees are still out of doors, Nov. 22. Our season is a little later than yours—probably by two weeks. We do not put them into the cellar much before the first of December, because we have a good many fine flying days up to that time on the average. We are paving in front of the factory, with the result that quite a quantity of dirt was deposited on a low spot in our bee-yard. This necessitated the removal of several hives. As it was not practicable to move them to another portion of the apiary, I told the boys to put them in the bee-cellar for a couple of weeks, then put them in some other location in the yard. This was done; and, notwithstanding the bees had been confined only about two weeks, I noticed that they voided a good deal of liquid fecal matter. While they would have been able to retain this for some time, possibly till next spring, yet the confinement of the two weeks showed that, when released, they would relieve themselves of fecal matter. I therefore think it advisable to put the bees in the cellar as late as possible, and then, wherever the locality will permit, give them one or two midwinter flights on a warm day. It pays well in this locality. Indeed, I do not believe we could have good wintering without these mid-winter flights.—ED.]



A prominent dealer in honey and supplies advertises in GLEANINGS "white and yellow alfalfa" seed. Probably he means sweet clover. All the alfalfa I ever saw had a purple blossom.

Regarding the small nuclei for queen-mating, let it be remembered that, while Mr. Laws deserves credit for first bringing them prominently before the public, he has not claimed to be the originator of the system. C. B. Bankston, I believe, was the one who brought the "Swarthmore" idea into this practical shape and first described the system in print.

Sweet clover is probably so called because of its sweet smell when in bloom, though it might well be so named because of the sweet smell of the dried plant or because of the amount of nectar it produces. I believe it was either the New Mexico or Arizona experiment station that in one of its bulletins referred to it repeatedly as "sour clover," explaining that it used this term because of the taste of its leaves as compared with alfalfa. It seems to me that this attempt to change the name of such a well-known plant is entirely unwarranted and useless, and can only lead to confusion.

The statement quoted in the *Review*, that the man who uses a bicycle to go to an out-apiary has done a day's work before he gets there, makes an old century rider smile. Although I keep one or more horses all the while, I prefer to use a bicycle whenever possible. I am bee-inspector for Mesa County, and have made all my inspecting-trips on the wheel. Sometimes for a couple of weeks together I have ridden from fifteen to thirty miles nearly every day, inspecting from 75 to 100 colonies of bees at a trip, and the least tiresome part of the day's work has been that spent on the wheel. I enjoy it more, probably keep in better health for it, and get more work done at less expense for the taxpayers who foot the bills, than if I used a horse.

Some bee-keepers here, generally newcomers from the East, have tried to winter their bees in cellars. So far as I know, the results have invariably been very unsatisfactory. Colorado has an ideal climate for wintering bees outdoors. No matter how cold it gets at night, and it very seldom gets as cold as in the majority of the Eastern States, the sun generally shines during the

day and warms things up so that the bees can move around in their hives and locate themselves properly with regard to their honey supply. Days on which they can fly are frequent. Good colonies, with plenty of honey, almost invariably winter well, no matter how open and dilapidated their hives may be. Some protect their bees by packing in straw or otherwise, but generally the only preparation for winter, if any is made, consists in laying a piece of burlap over the frames, allowing a slight upward ventilation.

Complaint is frequently made that queens shipped in from a distance do not prove to be good layers. Doubtless their prolificness is often injured by their long trip through the mails. It would be a good thing for the bee-keepers here if some queen-breeder would locate in this part of the West. The shortness of the season, compared with the Southern States, might make it impossible to raise as many queens in a season, but I think there would be a good demand for them, and that more queens would be used here if they could be bought near home. In one respect a breeder would have an advantage over many localities. A short drive from almost any part of this valley would take one out on the desert out of reach of any other bees, so that queens could easily be mated to selected drones.

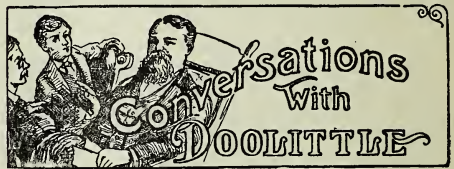
The picture of the Alexander apiary, and the figures relating to it, no doubt seem very impressive to those who are accustomed to only small apiaries at considerable distances from each other. But apparently there are few or no other bees in the neighborhood. Here it is no uncommon thing for that number of colonies to be on practically the same ground, with the range limited on all sides of them. A circle with a radius of a mile and a half, including my apiaries, contains 800 colonies, and for a considerable part of its circumference the circle would touch the desert, on which there is ordinarily no pasturage, while there are bees all around the rest of the circle. At another place a circle with a radius of three-fourths of a mile contained over 700 colonies, with bees nearly as thick on all sides. Another circle with a radius of a mile and a half contained 1100. An apiary within this circle averaged three cases of comb honey to the colony, though that was far better than common. When it comes to considering overstocking, the trouble is that few stop to figure on the number of colonies that already occupy practically the same location.

Prof. A. J. Cook some time ago in the *American Bee Journal* called the attention of bee-keepers to what he considered good locations in southern California because of the amount of alfalfa grown there. I felt sure that he was mistaken, because I had investigated some of these localities myself and found them unpromising. In a recent

article Prof. Cook says he has been criticised by a Ventura County bee-keeper who says that, while alfalfa in certain regions secretes nectar and adds largely to the honey-yield, in other sections, especially near the coast in Ventura County, it seems of no value at all as a honey-plant. Prof. Cook then theorizes that the reason it does not secrete honey in these localities is because of their comparatively cool and moist climates. A hot dry climate, he concludes, is necessary for alfalfa to yield honey; and he feels sure that the southern counties, San Diego and Riverside, must become excellent for honey. While I believe his theory is all right, there are other things to be taken in consideration. I visited a district south of Riverside where a great deal of alfalfa was grown, but concluded it was not a good locality for a bee-keeper. I based this conclusion, though, and the apparent scarcity of bee-keepers, on the fact that the alfalfa was generally cut before it came into bloom, thus giving the bees little chance to gather honey from it. It is undoubtedly true that atmospheric conditions greatly affect nectar secretion. It is my experience here that cool weather decidedly diminishes the yield from alfalfa, and that rain is a detriment. What alfalfa needs to yield honey well is hot dry weather, with plenty of irrigation water. I believe we have had some reports of good honey-yields in Kansas and Nebraska from alfalfa; but it is my opinion that, even if alfalfa can be made to grow well in the States having a moister and cooler climate, it will not be as abundant or reliable a source of honey as in the arid regions with irrigation.

I wish that people would not act as if they felt their own little corner of the universe, with all its peculiarities, ought to be familiar to all the rest of the world. Now there are Coggshall and some of the rest of them who have been talking for some time about using old phosphate-sacks for smoker fuel; and The A. I. Root Co. is talking of making it up into cartridges to sell to those bee-keepers who think they must buy every thing they use. Most of the bee-keepers in the States I am familiar with never saw a phosphate-sack, and would not know of what material it is composed. I don't myself. I have seen phosphate-sacks in the Southern States, but I do not remember what they were made of. You of the effete East, with your worn-out lands, may be thoroughly familiar with phosphate-sacks, but you have no right to assume that the rest of us are. I suppose that phosphate-sacks are made of jute or hemp, and are like what is commonly known as gunny sacking or burlap. If that is so, you ought to speak of old potato-sacks, then the Colorado ranchman would know what you are talking about. Burlap is one of the materials I find of great service as smoker fuel in my inspecting-trips. In fact, it is hard to beat for that purpose. The smoker fuel almost universally used here is cedar bark taken from fence-posts. A great

many do not seem to know that any thing else can be used in a smoker, and I have gone into apiaries fairly littered with excellent smoker fuel in the shape of old burlap, cotton rags, chips, etc., where the owner went to considerable trouble to bring me some cedar bark. This bark is first-rate fuel for a short job, but it makes so much ash that the smoker soon gets choked up, and must be cleaned out frequently. Away from home I use almost any thing that will burn, and nothing comes amiss. At home I prefer planer shavings, which are easily procured, cost almost nothing, and are easily handled. If they are inclined to blow into the nozzle of the smoker, I put on top of the charge of shavings a piece of burlap, a few leaves, a handful of weeds, or something of the kind. To light the smoker I use a piece of cotton rag soaked in saltpeter water, as advised by Dr. Miller.



MANY COLONIES OR GOOD MANIPULATION—WHICH THE BETTER?

"Say, Doolittle, have you seen that claim being made in some of the bee-papers, that success in bee-keeping lies along the line of keeping a whole lot of colonies, and visiting them only three or four times a year?"

"Yes, I read mostly what was said along this line during the past year. Do you indorse this idea?"

"Well, I hardly know what to think, and so came over to have a talk with you on the subject. If I adopt that mode of procedure I must make a lot of hives this winter, so it will be necessary for me to decide soon. Then, as lumber is high now, the cost will be considerable for new hives, and this made me hesitate."

"I am of the opinion that your hesitation is well, for there are elements entering into this matter that some seem not to see."

"What do you allude to?"

"I noticed that one of the advocates of this keeping a large number of colonies in one place, so that the labor part of keeping bees might be eliminated (which was loudly endorsed by the editor of one of our papers), told us very soon after, I think in the next number, how he fed his whole apiary of some 500 to 700 colonies during the spring so that they might be in shape for the flow of honey from white clover. And, strange to say, the editor seemed to indorse this feeding part; while, at the same time, manipulation along the line of spreading the brood, etc., was thought to be unworthy of the thoughts of those who would make the greatest success in our pursuit."

"But you do not consider spring feeding as labor thrown away, do you?"

"That was not the point at issue. The contention was the keeping of more colonies, instead of spending so much time in manipulation; and if I know any thing of bee-keeping there is nothing that requires more labor on the part of the apiarist than the feeding of bees during the spring of the year, where success is to be obtained by such feeding. And to carry out properly the feeding of from 500 to 700 colonies of bees is something which would almost stagger the man who sees only fun in all the work in the apiary."

"I see now, for I know that, when feeding is once begun, it must be continued till the flowers begin to yield nectar, or there will be little results accruing from the matter."

"That is right; and, in addition to all of this labor, comes the cost of the feed. And the strange thing is that neither of these counts as any thing to the one who sees nothing but 'labor and vexation of spirit' in the matter of manipulation along other lines which, as a rule, give better results than does spring feeding."

"I see that 'Deacon Hardscrabble' thinks that much of the feed given during the spring finds its way into the surplus. What do you think of that?"

"That depends upon the amount fed just prior to the opening of the honey harvest. If the feeding is heavy at that time, and the hive is not well filled with brood, some of the feed may go into the sections together with that obtained from the fields. But bee-keepers, as a rule, are made on the plan of feeding as little as possible consistent with good results, owing to the expense of the feed. But I have no fight along this line, nor along the line of spring feeding to get the colonies in proper condition for the harvest. My contention is against the advocating of any plan that tends to a neglect of the bees, as does the advocating of many colonies with little manipulation; while at the same time it appears that such advocates spend more labor at feeding, etc., than is required in building up colonies ready for the harvest, in other ways. And, greatest of all, this advocating of multitudes of colonies with little or no labor tends to beget in the *beginner* a slipshod method which generally results in his losing all he put in the business, in a few years after he enters the ranks of apiculture."

"Then you think as good results can be secured with the same amount of labor by the man who keeps 100 colonies of bees as could be done were he to spend the same labor on 200?"

"That is my thought; and any careful reader of the bee-papers during the past can come to no other conclusion, for reports favor the former rather than the latter. Don't misunderstand me. If any man has the ability to care for 100, 200, 1000, or even 2000 properly, and can hire competent labor to help him manage the thousands, he will

make a success in the matter. But the putting into the field of 200 colonies of bees, where a man has capacity for only 100, will not make success, even though the 'trend' of some would have it so appear. A man can secure much better results in properly caring for 100 than can be done with 200 colonies worked (?) on the let-alone plan of visiting the apiary three or four times a year."

"What do you base this assertion on?"

"The experience and observation of the past. Thirty-five years of bee-keeping life tells me that this is not mere fancy, but facts which the success of the two plans, in the hands of the *average* person, proves. If you have any doubts along this line, just try the two plans side by side till you are convinced. With the low prices of honey (as compared with the prices of many other things), seems to have come the thought of partially or wholly going back to the old idea that bees work for nothing and board themselves; so that many bee-keepers seem to think all that should be required of them may be summed up in the old saying of hold the dish to catch the porridge."

"Then you think that this advocating of more colonies and less work tends toward a lowering of the standard of our more advanced apiculture?"

"I do; and not only this, but an education that is not profitable. To the enthusiastic bee-keeper there is no fun in such a plan as this. Pleasure comes only through a love of our pursuit; and if we love it we are always interested enough to make the labor *fun* while we are doing it. Did any one ever have any fun going fishing and get it by swinging in a hammock in the shade? Did any one ever enjoy himself in the fox-chase while sitting beside the sitting-room fire? The love of fishing and of the fox-chase is greater than that for hammock and fire, and so the love for work with the bees will make the same greater fun than a life of ease to the one who is to succeed in our pursuit."

[I am a little at a loss to know to whom Mr. Doolittle alludes in his reference to the editor who "loudly endorsed" the idea of keeping a large number of colonies on one place, and then afterward in his next number commended the feeding of the same in the spring. It would be much better if our correspondents would refer to the individual by name, and give exact page or pages of a given bee journal where such and such ideas were discussed. No offense could possibly be taken in any case, for every one has a right to his opinion. Perhaps some might say, "Do not put the shoe on if it does not fit." I am not putting it on, because I do not think I have given any general indorsement to a large number of colonies in one locality, as mentioned in the paragraph above by Mr. Doolittle. Mr. E. W. Alexander, in our issue for Nov. 1, page 1019, did tell about keeping an extraordinarily large number of colonies in one locality. In my

footnote referring to the matter I said, "I doubt if there are many localities in the United States that will support so many bees without cutting the average per colony down to an unprofitable basis." While this does not at all detract from any statement Mr. Alexander may have made so far as it relates to his locality, the opinion expressed is most decidedly that a large number of bees in one locality is, as a general thing, unprofitable, and therefore not to be advised. I have run through hastily some of the other bee journals, but do not find such indorsement as Mr. Doolittle speaks of, and therefore I am all curiosity to know what editor is commending such a proposition.

I have written a good deal about bees, and perhaps on some page I may have made a misstatement or a statement that is capable of a misconstruction. If so I should be glad to have the same pointed out.

I have always believed, and I think our columns will bear me out, that not over 100 colonies as a rule can be kept in one locality, and I have often advised not over 50 or 60. I know of only two localities that will support 500 colonies all in one yard in the United States. One is in California, and the other is in New York; and even these would not begin to do this were it not for expert management.—ED.]



OWING to some unexpected advertising coming in late we have been obliged to leave out our usual installment of Heads of Grain. We are preparing to enlarge our journal; and possibly in our next issue, certainly in the one following, we will give a great deal of extra matter to make up, at which time an unusual amount of questions and answers will be given.

CONVENTION DATES.

It would be a good thing if those who have to do with fixing dates for conventions would arrange them so they will not conflict with some other convention date, so that one or more speakers can attend them all. For example, the Illinois State convention conflicted with the one at Toronto, Canada. Editor York had intended to go to both, but of course could go to only one. I am arranging to go to Chicago to attend the Northwestern, Nov. 30, and go to Cincinnati Dec. 2, then am compelled to retrace my steps, and go back to Chicago to get to Minneapolis, the 7th and 8th, making double mileage. If the matter were put in the hands say of the General Manager of the National, he might suggest a set of dates

so that he himself and the editors of all the bee-papers could attend all the conventions, and at the same get the the mileage down to a minimum. Such an arrangement would often make it possible for an association to get an outside speaker when it could not otherwise.

GIVING BEES MID-WINTER FLIGHTS.

I BELIEVE it was decided years ago that it did not pay to give bees in the cellar a mid-winter flight; that the slight gain resulting from such flight would not compensate for the labor involved. Of course, a good deal depends on the locality, the kind of cellar, the temperature that it is possible to maintain in it, irrespective of outside weather, and, in general, the winter itself. But I am satisfied that, in our own locality, one and possibly two mid-winter flights when the weather permits not only pays but pays well. In half a day's time two men have taken out of our cellar 200 colonies, allowed them to fly, and put them back. The beneficial effects were immediately noticed. While the bees prior to removal were uneasy, they became perfectly quiet after being put back, and continued so for several weeks after. It may be that in some cellars, in some localities, with a uniform temperature, the bees can be kept so quiet, so dormant (bordering almost on a stage of hibernation), that the mid-winter flight is not necessary.

FLOATING APICULTURAL EXPOSITIONS IN RUSSIA.

I DESIRE to call special attention to that part of Mr. Titoff's report on Russian bee-keeping referring to the floating expositions illustrative of apicultural progress in Russia. I am of the opinion that something of the kind could be instituted in this country, and perhaps Uncle Sam some day will foster such an enterprise. If a good big barge could be chartered to go down the Mississippi with a floating apiary, extractor, extracting-house, and comb-honey equipment, with competent men in charge to illustrate each process, it would have a most wonderful educational effect. It might stop at all the principal places; and if a similar barge were floated on the Ohio River, another on the Columbia for the Northwest, every one would have an opportunity at very little cost for railway fare to see the latest methods actually put into operation.

IGNORANT FOOD COMMISSIONERS.

AT the St. Louis convention Prof. E. N. Eaton paid his respects to the ignorant or incompetent food commissioners who every once in a while will break loose in the papers about some impossible adulterations, alarming the public with a story that will travel from ocean to ocean. It is high time that some one should call down some of these people for the senseless blunders they are making in the name of the great commonwealths they are supposed to represent.

For example, one of our food commission-

ers, a strenuous official who was doing his duty in the enforcement of law, in some correspondence kept continually referring to honey of our "manufacture." At first we were very indignant, and resented the insinuation that we *manufactured* honey; but later correspondence showed that what he had in mind by the term our "manufacture" was honey of our *production*—that is, honey gathered by our bees from flowers, and stored in the combs. If ever there was a "red rag before a bull" it is the term "manufacture" when applied to a bee-keeper's production.

□ But here was a food commissioner, who ought to have known better, who was using that term indiscriminately in his correspondence and in his public references; and do you wonder that the "manufactured" comb-honey lie keeps cropping out in the press? When food commissioners talk about "manufactured honey," the reporter, who "interviews" him, of course has to make up a story to fit, with the result that the whole bee-keeping industry is damaged by the very people, the pure-food commissioners, who are supposed to be its friends.

I suppose that our political conditions, necessitating a change of administration every once in a while, are responsible for this. An official no more than gets the run of things so that he understands the business in all its details than he is removed and somebody else is put in his place who has to learn the whole thing over again, in the mean time making many blunders until he becomes familiar with all the different kinds of food and food adulterations.

SIDELIGHTS FROM THE ST. LOUIS CONVENTION; BEE-KEEPING IN RUSSIA.

It will be remembered that Mr. Abram Titoff, a Russian apicultural expert, came to this country commissioned by his government to study American bee-keeping in all its varied phases. He first came to The A. I. Root Company's plant, and accepted a position with us as employee in our wax-working department. During this time he familiarized himself with the Weed process of foundation-making in every detail. Later on he worked in other departments. When warm weather came on he went out into the bee-yard, and became one of our most efficient apiarists. He proved to be not only a skillful bee-keeper but a tremendous worker. After having familiarized himself with all the different methods of queen-rearing known to the business in this country he desired to work with and for some prominent honey-producer in extracting honey. As the season last summer was somewhat backward I could think of no one but Mr. E. W. Alexander, of Delanson, N. Y., one of the most extensive bee-keepers in the world, who was having a good crop; for he it remembered last year was a poor one in many localities. To him Mr. Titoff went with our warmest endorsement and recommendation. He came back after two months' work in

the height of the season, stopped a few days, and then went on to the big national convention at St. Louis, where he gave a very interesting and exhaustive paper on Russian bee-keeping.

Little has been known about bees in the greatest country of all Europe; and great was our surprise to know of the possibilities of bee-keeping in that land. Mr. Titoff started out by saying that the Americans had often expressed their surprise to him that bee-keeping should be at all practicable in his country; that there seemed to be a general opinion that it was a land of snow, ice, arctic dogs, and fur coats; that Siberia with its convicts was a land of eternal snow, cold, darkness, and horrors. This was a great myth, as he would try to show. The conditions for bee-keeping in Russia were



ABRAM TITOFF.

fully as favorable, he thought, as in the United States; and the demand for honey and beeswax was and would be greater, for the reason that the Greek Church in celebrating her religious rites forbids meat being eaten during the fast, and that during such times great quantities of honey were eaten; also that wax was used in immense quantities for wax candles in the church. He did not believe there was any country in the world where the possibilities for the sale of honey and the development of apiculture could be greater than in his own fatherland.

Up to the 17th century bees had never been cultivated, and so honey, if secured at all, was, as one might say, the product of the chase. This one fact went to show that, *because* bees could thrive in a wild state all over the country, they could certainly do well under intelligent cultivation.

The early history of Russian bee-keeping

was about the same as the history of all European countries. In the beginning of the 19th century there was a general awakening on the subject. One of the first to give an impetus to it was Peter I. Prokopovitch, who, in 1828, established a special school of apiculture, and for 22 years he carried on this work, graduating 596 students.

Another energetic personality was Alexander M. Butleroff, who took the liveliest interest in every thing pertaining to bee-keeping. He wrote several handbooks on apiculture, which for years formed the textbooks of the majority of the Russian apiarists. He founded the Russian *Journal of Apiculture*, and established a model apiary at the All-Russian Exhibition at Moscow. He was instrumental in formulating the scheme for a floating apicultural exposition, which was mounted on a barge, sailing for thirty days on the river Moscowa, making ten stops to acquaint the people with scientific apiculture. This floating exposition was visited by over 60,000 people. A similar exposition on the Oka River a few years later was also planned and carried into effect.

In this respect I desire to add, by way of parenthesis, that Russia has gone away ahead of any other country; and the scheme of teaching apiculture or any other industry to its people by means of a floating exposition whereby daily demonstrations could be made is not only novel, but something that is deserving of the emulation of other countries. In the United States we have great expositions, but the people have to go hundreds and even thousands of miles to see them. The result is that millions of poor never have an opportunity of having their eyes opened to the wonderful possibilities of latter-day science and progress. But Russia makes it possible for every one to see—in other words, she takes "the mountain to Mahomet."

RUSSIAN APICULTURAL SCHOOLS.

But this was not all. An exposition for apiculture was held in Moscow in 1890. A special school for the study of bees was inaugurated in 1884. In 1896 there was established at St. Petersburg The First Society of Russian Apiculturists, several branches of it being opened in various parts of the country. This organization started a monthly magazine, arranged for exhibitions, conventions of apiarists, apiaries for instruction, and courses in apiculture for teachers in the people's schools. In imitation of this organization new societies were established, of which there were 38 with eight divisions, with the promise of several more in the near future. Apiculture, including both theory and practice, was taught in 80 agricultural schools, the teachers attending to the culture of them. In many provinces the Zemstvos (an organization consisting of elective representatives of the several classes of population) have been active and energetic in the matter of elevating apiculture, inviting special experts for giving practical demonstrations, of which Mr. Abram Titoff was one before coming to this country.

In this way apiculture has progressed in Russia until there are now nine journals devoted to the pursuit. Of these, eight are in the Russian language. There are many translations from foreign languages, of such notable works as Dadant's *Langstroth*, Dzierzon, Berlepsch, Bertrand, Cowan, Cook, Maeterlinck, de Layens, and Dubini. Russia began to borrow largely from other countries of Europe; but it was not until 1892 that Russian bee-keepers knew very much about the methods employed in the United States. At that time a new journal, called the *Messenger of Foreign Apicultural Literature*, was edited by Mr. Kondratyeff. He traveled abroad every summer, going to Germany, France, Austria, Italy, and Switzerland. He became acquainted with the celebrated Swiss apiarist Mr. Ed. Bertrand, who frequently described American apicultural methods in his own journal. Mr. Bertrand was always a devoted follower of the late Charles Dadant, of this country. The result was that he enthused his Russian friend, Mr. Kondratyeff, with the successful methods employed by the Dadants, until the name "Dadant" in Russian bee-keeping is synonymous with progress and the frame hive. So enthusiastic over American bee-keeping did Mr. K. become that he familiarized all Russia with the names of Langstroth, Dadant, Root, Miller, Benton, Doolittle, Pratt, Alley, and others. All that could be applied to Russian conditions was adopted. The ABC of Bee Culture was quoted in the columns of Mr. Kondratyeff's paper. The result of this warm championship of America is that half of all the Russian bee-hives with frames are of the American Dadant style.

There are over 300,000 persons engaged in bee culture in European Russia to-day, and 5,000,000 hives of bees, comprising all of Russia and her possessions. This would make a total valuation of \$12,000,000.

The Russians have adopted a rather novel form of selling comb honey. Beautiful tin boxes, lithographed in colors, are made of various sizes. Great cards of honey are produced in extracting-frames, and from these are sliced out chunks just large enough to go inside of the tin box. These are put out under the name of "Exquisite," selling at the fancy price of 25 and 30 cents each. But of these I shall have more to say later on, for illustrations are now in progress.

It is my opinion that, notwithstanding Russia has learned much of America, there is much for us to learn from Russia. Mr. Abram Titoff expects to go back to his own country after visiting other lands, and introduce modern methods, and possibly establish a factory for manufacturing bee-keepers' supplies—something that is urgently needed in Russia. If he does, he will take back with him American machinery, and probably to a very great extent American methods.

Mr. Titoff's paper, while long, was listened to with interest; and at its conclusion a hearty vote of thanks was tendered to him and his government.

A HOUSE APIARY 56 YEARS OLD

In Good State of Preservation; a Pecan-tree 88 Years Old; a Grove of Catalpas; an Interesting Article.

BY FRANK M'GLADE.

The farm on which these pictures were made is in Warren Co., three miles east of Lebanon, O., and is owned by Edmond Wood. It was entered by his grandfather, who came from New Jersey in 1804, and has been in the family 100 years. Jerry Wood, son of the elder Mr. Wood, and father of the present owner, owned the farm after his father's death, and died there a few years ago. He was the bee-keeper, and built the house in 1848—56 years ago. It was built of the finest quality of oak timber, and cost \$700, without any furniture. It is 70 feet long, 9 feet wide, and 10 feet high. A hall $2\frac{1}{2}$ feet wide runs the length of the building, in the center; the posts are 3 inches square, and carefully mortised. There are 4 rows of these posts, just far enough apart to receive and allow

front. You can see a cleat on the side. The bottom is loose, and held by 4 wire hooks. The present owner, who kindly showed us the "fixin's" and gave us the information, is standing behind the hive. This picture was made to show that tree, a southern pecan, planted there in 1816, and which is 88 years old. It is 7 feet in diameter, over 75 feet high, and not a sign of a dead branch on it. It bears fruit every year. The 4 stakes you see leaning against it are the posts of a New Jersey bedstead. On the right you see a few of the Langstroth hives, most of them empty, as Mr. Wood takes more to farming than he does to bees.

Fig. 3 is a sectional view at close range.

Fig. 4 is a view of an orchard of catalpa-trees on the place. There are 5 acres. The trees are set exactly in straight rows, about 12 feet apart each way. There are about 700 of them set out 15 years ago; are over 30 feet high, and 9 inches in diameter. About half of them are Japan catalpas; the rest are American. Those in the foreground are the Japan. If you look closely toward the north side you can see the difference, the



FIG. 1.—WEST SIDE OF THE BEE-HOUSE.

the hives to hang freely between them. Strips were fastened on the posts, and strips on the sides of the hives; then the hive was slipped in from the hall inside, and swung or hung on the cleats.

The house holds about 150 hives, and was built for the Wick patent hive. Mr. Wood bought the right in 1840, and had over 300 of them made and in use at one time. There were no frames about it. The honey was stored above the brood-chamber, in boxes. Two doors in the rear of each hive opened into the hall, and allowed of handling. Some years they got 4000 lbs. of surplus honey. The whole thing, however, proved unsatisfactory, and the bees were all changed to the Langstroth hive, and the hives are hanging there to-day just as they were left by the owner, not more than a dozen having bees in them.

Fig. 1 shows the west side of the bee-house, with the only door in the north end.

Fig. 2 shows the east side, with a hive in

common kind being smaller, crooked, and more sprawly. Mr. Wood said the flowers furnished much pasture for bees; and after the bloom had fallen they continued to work in the trees a long time.

It would be well worth any man's time to go and see these things, and many more of which I will not write. The farm is an up-to-date one, and shows that its former owners were men of extraordinary mental ability as well as executive.

That large tree stands there as a guard to watch over the things until they return; but they are gone, to return no more. Silence reigns.

This bee-house has a wonderful fascination for me that words fail to describe and only a bee-keeper can know. As I gaze upon it my mind goes back through the fleeting years, and I see Mr. Wood, in the strong vigor of manhood, fashioning it with his own hands to suit his own fancies. What joy and pleasure he had in anticipation of what was to

come, as it began to dawn upon him what could be done with bees, as the great book of nature opened to him as he turned leaf by leaf, each one revealing some new thing, and leading him further into the great mysterious field of knowledge that it is the lot of only a few to explore! I see him put in the hives. They fit; then the bees; they fit too. Then comes the "good old summer time," a crop of white clover, loaded with nectar, honey coming in until all those boxes are full of great white slabs of honey. It was long before the days of the extractor, or sections. As he seats himself after dinner in the shade out in the yard, he sees them come and go; or when the day is ended, the evening shades gather, and he seats himself to rest and muse, under the magic influence of the great hum which came from all those hives. That sound has a lulling effect; he

hears conversation in the hives; hears them telling of the events of the day, how hard they work, how many trips this one made, one telling of how he made a mistake and got in the wrong hive—heard him telling how the hive was just the same inside as ours; heard—when "ma" came to the door, and he heard "Pa! are you going to sit out there all night? come in and go to bed. Do you know it is after 10 o'clock?"

Then come the years of failure, when the great God of the universe dries up the secret springs of the flowers; their paps are empty; the bees go not to the fields as in other years, but stay at home and behave in a way that tells him that even they are fearful of and obedient unto Him who made them and provides for them.

And so we come on down through the 60's, with their war prices for honey; the 70's

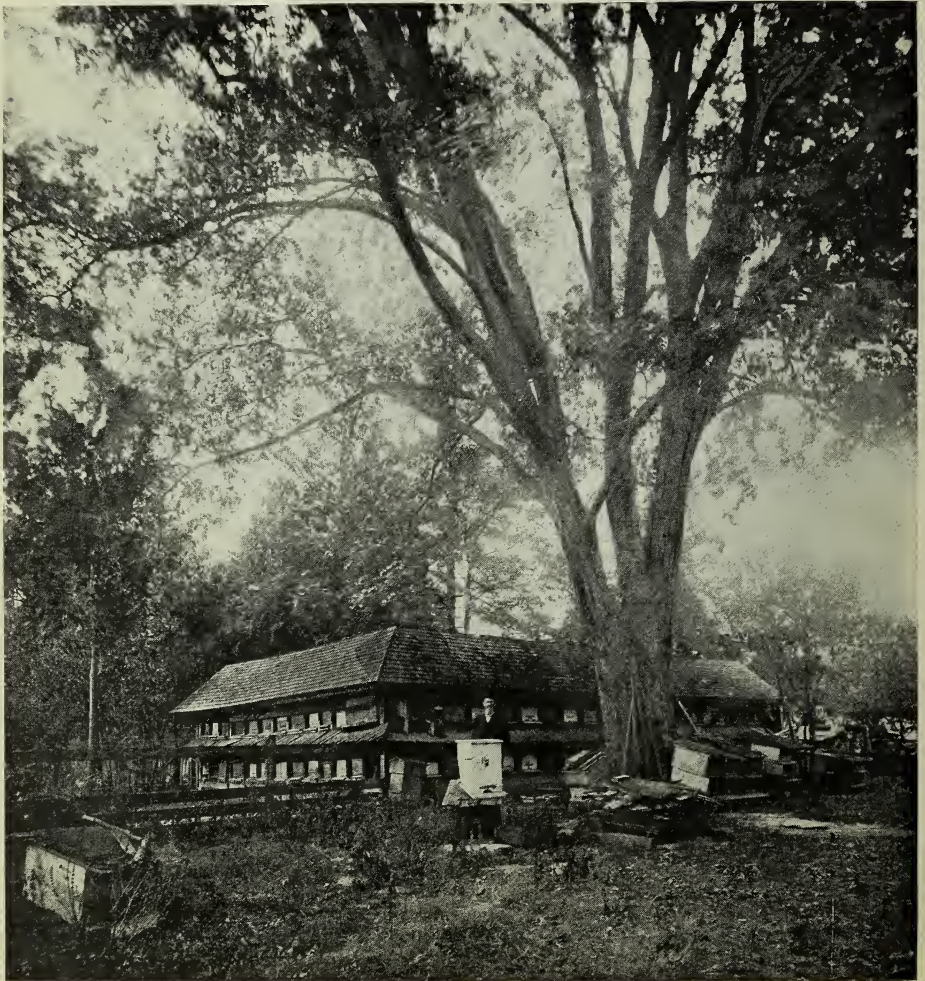


FIG. 2.—EAST SIDE OF THE HOUSE; PECAN-TREE 88 YEARS OLD.

come, and he begins to hear of A. I. Root, Medina, O.; of the extractor; sends for one; hears of foundation; sends for it, hears of GLEANINGS; sends for it, and, lo! a new realm opens before him. But the march of time is far along with him, as seen in the faltering step and dimmed eye. A lack of interest shows itself in the yard. He ceases to be seen, and they carry him away and lay him down in peace.

But the tree is left—left alone. They

were young together, much in each other's company; used to each other's ways; in its loneliness the winter winds moan through its branches, the summer breezes sigh as they pass through it, as though its great heart were breaking because its companion came not, and yet it rears its stately head like some mighty sentinel guarding a sacred trust; spreads its great arms in protection and shelter; and as the years roll by, and the seasons come and go, it stands there, defy-

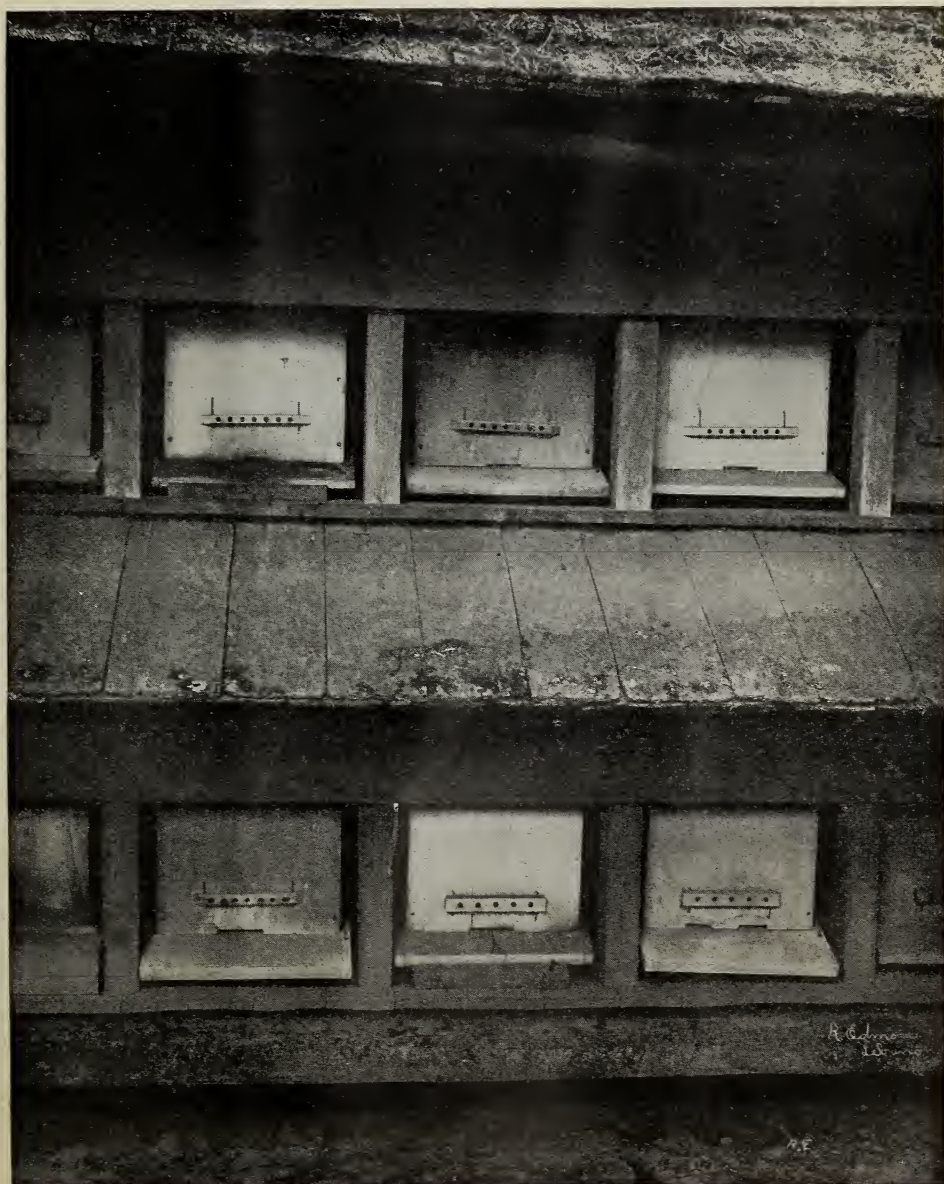


FIG. 3.—VIEW OF BEE-HIVES IN THE HOUSE AT CLOSE RANGE.

ing the blasts of winter or the storms of summer, ever intent on the one thing, guarding that house, watching out toward the north for his coming; but he will come no more. Jerry Wood is gone from the farm—gone from the neighborhood; and as I turn to finish packing my last hive for winter I realize that I too shall go away some day, and then "*Whose shall these things be?*"

Pataskala, Ohio.

PICKLED BROOD.

Starvation Plan Not a Cure; how the Introduction of New Queens does Effect a Cure; are Italians More Immune to the Disease than Blacks?

BY C. F. BENDER.

There has been a great deal written on the diseases of bees, especially "pickled brood," by those who have had only a limit-

ed among the weaker colonies which were needing room. These combs had all been soaked in the same vessel in the attempt to remove the old pollen; the colonies which received them took the disease without exception.

I sent samples to Dr. Howard, who pronounced the trouble to be pickled brood in a very malignant form, as I had already decided for myself. Every one assured me it was not serious; that it would disappear of itself, even if left entirely alone. A few cases did finally get well without treatment, but there was another cause for that, as will be noticed later on. In general, matters grew rapidly worse, so that by June 15 I had thirty affected colonies, about a dozen of them with little or no healthy brood in the hive. In the worst ones the old bees disappeared rapidly also, and they were soon reduced to mere nuclei.

I first tried feeding medicated syrup, and the treated ones grew much better while the



FIG. 4.—A GROVE OF JAPAN AND AMERICAN CATALPA-TREES.

ed experience. Having succeeded in getting rid of the disease for a time, they suppose the cure to be permanent, and proceed to describe their success in the bee-journals. Indeed, I think that I was guilty of something very much like that myself. But two years' study of the disease, and the conditions producing it, has finally brought a solution of the trouble, which seems to me to be the only true one. It has been given a rather severe test this summer, and has never failed so far.

I am pretty sure the disease was generated in my own apiary. The first year I could find no cases in the neighborhood outside my own yard, and I had received no bees from abroad which could have introduced it. I had a lot of moldy combs that spring, and about the 10th of May these were distribut-

feeding lasted, but no longer. The second experiment was shaking them on to clean combs which had been thoroughly fumigated with formaldehyde. This, like the other, seemed to work all right at first; but the disease reappeared sooner or later in every colony so treated, and at the same time continued to spread in the rest of the apiary. It seemed to me that heroic measures were in order; so I proceeded to shake every colony in the yard on foundation, starved them three days, and then fed them sugar syrup until the combs were built out. The honey-flow came on about this time, and for the next six weeks every thing was fair and lovely. I had burned the hives out with a paint-burner, melted up the old combs, burned the frames, fumigated the honey-house, and, lastly, destroyed my smoker,

veil, and bee-suit. Every stand of bees within two miles had been examined and found to be healthy, so there seemed no chance for reinfection.

Well, when the honey-flow was over they took it again. Thirty out of the sixty-two hives showed dead brood inside of three months—not so much as before the shaking, but enough to make them decidedly weak before winter came on. The winter was very severe, and the losses everywhere were heavy. My own loss was just 50 per cent, including the greater part of the diseased ones. May 1, 1904, I had thirty stands of bees left, mostly diseased nuclei. There were five strong and healthy colonies in the lot, all pure Italians, and all of the same strain of bees. I had noticed the previous season that the severity of the cases seemed to be in direct proportion to the amount of black blood.

I had never heard Italianizing mentioned as a remedy; but as it seemed to be the last chance I decided to buy pure queens for the whole lot as soon as I could get them. Immediately after the honey-flow they were all requeened from the stock that seemed to be immune. None of them were treated in any way except that all were fed for a week before the queens were given. Some of them were a mere mass of disease. The infected combs were left in the hives, but the worst ones were unequened ten days in advance, to give the bees a chance to clean out the dead brood.

The new stock was introduced mostly during the months of July and August, at a time when the disease would otherwise have been nearly at its worst. There was in every case a rapid decrease in the amount of dead brood; and all except the worst cases were perfectly healthy inside of two weeks. Within four weeks I could not find a cell of the disease in the yard. They have remained healthy up to the present time, Nov. 1, and I expect no further trouble so long as I keep only pure Italians.

Now a few words in regard to the causes of this loss of brood. I am satisfied that it is an infectious disease, as Dr. Howard says, caused primarily by the use of moldy pollen. But there are other factors which must also be present to start the infection—notably, cool weather, scarcity of stores, old combs, and black blood in the bees. If the other factors are eliminated the moldy pollen is perfectly harmless, or even the combs filled with dead brood. In other words, if the larvæ are kept warm and well fed, the mold has no effect on them. The black bees are easily discouraged, and neglect or starve the brood when unfavorable weather and lack of stores come on; and if the mold is present the disease is started in that hive, from which it is readily carried to others. It does not seem to spread very far; indeed, it hardly spreads at all except to neighboring hives. Of two apiaries within a fourth of a mile of my own, one was healthy and the other had one case, after I had had the disease two years. I have bought the little

apiary with the one diseased colony, and at the present writing all the bees near here are healthy.

Newman, Ill.

[I have read all you have to say on this subject with much interest; and while I know it has been reported by the foul-brood inspectors of New York that Italians are more immune to black brood than blacks, yet, in the case of pickled brood, such immunity is not yet proven. I am of the opinion that, if you had introduced ordinary hybrid or black bees of a healthy strain (of course killing off the old queens), you would have secured the same result. Mr. A. J. Halter, whose article follows next, effected a cure, but he does not say what stock he had that was diseased. He is a very progressive bee-keeper—one who, like yourself, has studied this subject very carefully. I think his bees are mainly Italians, and yet they were subject to the disease. He introduced new blood, and, presto! the cure was effected. It would be a very interesting fact, to queen-breeders at least, if it could be proven that Italians would resist pickled brood more than other stock. I, therefore, call on our subscribers who have had experience with the disease to let us know whether their Italians have been more immune to it than their other stock.—Ed.]

EXPERIMENTS WITH PICKLED BROOD.

During the apple-bloom I bought a dozen colonies from a neighbor about two miles distant, the hives containing a good surplus of honey after wintering. When locating them among my bees I transferred them in more convenient hives, setting a few of the old combs in the open air for the bees to clean out before rendering into wax. Later I removed said colonies to an out-apiary.

When clover had been in bloom for at least ten days I noticed dead larvæ in both apiaries scattered here and there, beginning in the strongest colonies. Thinking at first the honey in the old combs which I had set out started the disease, I examined the colonies bought, but did not find any trace of its appearance, although later several colonies had a light attack while almost all the other colonies were affected.

About two weeks after its discovery I made shook swarms from a number of the diseased colonies, starting bees on foundation, placing frames with brood and honey from various hives with a few adhering bees away by themselves, letting them rear queens, all brood hatching before young queens began to lay. Mr. E. W. Alexander, Delanson, N. Y., I believe, used this method to requeen for cure of black brood.

The latter proved a success—no indications of reappearance. In the former it reappeared, almost more severely than at first, being obliged to remove the queen in one or two instances to avoid further destruction. It also seemed more severe in colonies run for extracted honey, as very nearly every new frame in the upper story, where the

queen had access, showed dead larvæ. I did not feed any colonies during the attack, using nature's own product to define the cause, and I believe I feel justified in stating that thin unripe honey fed to larvæ during unfavorable weather conditions has a tendency to bring on the disease.

Whether the disease can be attributed to feed alone, or to germs of a bacterial nature, future developments may determine more definitely. A. J. HALTER.

Akron, O., Sept. 20.

[See footnote to preceding article.—Ed.]

WHY YOUNG BEES DO NOT BEGIN FIELD WORK.

Do the Hairs over the Eyes Obscure Vision at an Early Age?

BY ARTHUR C. MILLER.

On page 846 Dr. E. F. Phillips had an interesting article giving a theory as to why bees do not begin field work at an early age. He attributed it to imperfect vision, due to the eyes being covered with hairs. Several considerations at once present themselves to cast doubt on the tenability of such a theory. We know very little as to the action of bees' eyes, particularly as to how much light is needed to convey distinct images to their perception. We know that they do many things in nearly absolute darkness, and we do not know whether they work under such condition entirely by touch or by some sixth sense, or whether they also use sight. We know how distinct an image we can get on a sensitive plate from the light admitted through a very small pin-hole, and we also know how much we can see with our eyes when looking through a minute aperture. The hairs do not shut off all light; they are not so dense but that the bee can see through them, for we can see the bee's eye, and the bee has the advantage of having its eye close to the apertures.

But the greatest of all objections to Dr. Phillips' theory is the fact that at swarming time bees of all ages, even to those too weak to use their wings, rush forth with the swarm, and all, except the weaklings, take flight and go safely and surely, and show every evidence of good usable eyesight. This applies to virgin queens, to drones, and to workers. I think it reasonable to assume that eyesight is not the cause of lack of early flight, or at most is only a slightly contributing cause.

On emergence from the cell the bee is not perfect. Even to the unaided eye this is evident. It is small, weak, and unable to use its wings, and evinces almost no effort to do so when tumbled from the comb. Structurally, the bee is perhaps nearly complete; but it takes many hours of *stretching* (if I may use the term) before the abdomen assumes normal dimensions; before the bee can walk firmly and steadily; and still longer before the bee can fly. Surely this indicates immaturity.

I think it was the English naturalist Hunter, who, about 1780, showed the great difference in the capacity and activity of the stomach of the young from that of the old or field bee. In view of this, together with what we know of the gradual change in the habit of the bee as time elapses, is it not a more plausible theory to attribute the changing activities to gradual functional changes within the bee's body, rather than to the mere shedding of a few hairs? Changes in manner of living, due to organic changes, are very numerous in the animal world.

Perhaps, after all, the bee is not so far removed from mankind but that she is led in divers ways simply by a precocious appetite. Providence, R. I., Oct. 10.

[I raised the same question about young bees flying with the swarm, and flying out for a playspell in front of the hives. Dr. Phillips met me half way by saying that we old bee-keepers did not, he thought, realize how much the bees depended on their very acute sense of smell for performing their work. He called my attention to the fact that bees would seem to follow robbers through the air direct to the spot where the stolen sweets were to be obtained. He believed that young bees could follow their older sisters in the air by the mere sense of smell.

Perhaps I have not quoted the doctor correctly; but if not, he is at liberty to set himself right. I grant that there is considerable force to your argument, that young bees during the first few days are very immature; and whether blind or on account of obscure vision they probably could not go forth into the open air immediately. Possibly there is a double reason—obscure vision and general weakness—that keeps young bees at home.—Ed.]

CLEANING PROPOLIS OFF FROM SEPARATORS, FENCES, T TINS, ETC.

A Valuable Article.

BY EMMA WILSON.

In the A B C, p. 224, Emma Wilson tells of cleaning separators with concentrated lye. Can we have her tell us in GLEANINGS if it proved a success, and if they still use the plan? E. G. CARR.

New Egypt, N. J., Oct. 29, 1904.

[This was referred to Miss Wilson, who replies.—Ed.]

In reply to Mr. Carr I would say that, so far as removing the propolis was concerned, it was a success; but the separators curled badly in drying. Of course, this difficulty might have been overcome by putting them in a press; but as new ones were not very expensive we preferred to buy new rather than fuss cleaning the old. In the case of fence separators it is different, as they are too expensive to throw away; and, although I have not tried it, it is pretty certain that they will not curl as the plain separators did.

The plain separator is simply a very thin piece of wood, $3\frac{1}{2}$ inches wide, and, without any restraining influence when drying, will curl much as a piece of paper would; and the wider the separator the more chance to curl. The parts of the fence are narrow, giving less chance to curl, and they are held in place by the cross-pieces.

It would be an easy thing to pile evenly in a pile a lot of fences after cleaning them, laying a weight upon them; and, if allowed to remain thus until perfectly dry, it would seem they should be just as straight as when new.

Of course, glued separators could not be cleaned in this way; but I understand that the fences are now nailed so that the fence of 1905 can be dipped in hot water or lye without injury. One great objection to the fence separator has been the difficulty of cleaning it properly; and if this can be done away with it will be a big item.

Having had no little experience in cleaning T tins, it may be worth while for me to suggest how I think fences should be cleaned.

You can do the work in a wash-boiler on the cook-stove; but it will be much better if you can have a large iron kettle, such as are used at hog-killing time, and formerly at soap-making, having it over a fire built outdoors. This gives you all outdoors to muss in, and no cleaning up afterward.

Fill your kettle a little more than half full of water; and when it comes to a boil add three cans of concentrated lye, pouring it in very carefully and slowly, because the lye is very likely to boil over.

Now put in as many fences as will go in the kettle without being too much crowded, for there must be room for the fences to be moved about a little in the kettle. This can be done with a four-tined pitchfork, slowly stirring the fences up and down, so that the lye can get at all parts, and so that the movement shall wash off the loosened propolis.

If the lye is strong enough, a very few minutes will suffice to clean them thoroughly, and they can be lifted out with the fork into a tub of clear rinsing water, then out of the rinsing water in the same way, and piled up to dry as before suggested.

Whenever the solution acts too slowly, more of the concentrated lye must be added, and water must also be added as fast as needed. See that the water is kept hot all the time.

Marengo, Ill.

NEW GENERIC NAMES FOR HONEY-BEES.

BY FRANK BENTON

(Apicultural Investigator, United States Department of Agriculture).

One of the entomologists connected with the United States National Museum, Dr. William H. Ashmead, has been making a comparison of the various exotic honey-bees that have been received at the Museum, and, as a result of his study of their structure,

has written an article entitled "Remarks on Honey-bees," which was published May 20, 1904, in the Proceedings of the Entomological Society of Washington, Vol. VI. No. 2. Mr. Ashmead says: "The old genus *Apis* should, I think, be divided into two genera, representing the two sections first defined by Smith, as follows:

"Eyes somewhat convergent above, so that the vertex is narrowed, the lateral ocelli being farther from each other than to the eye margin; second recurrent nervure received by the third cubital cell very near its apex *Megapis*, n. gen.

(Type: *Apis dorsata* Fabr.)

"Eyes not convergent above, the vertex not narrowed, the lateral ocelli not farther from each other than to the eye margin; second recurrent nervure received by the third cubital cell some distance from its apex *Apis* Linne.

(Type: *Apis mellifera* L.)"

It is thus seen that our ordinary *Apis dorsata*, known under the common name of the giant bee of India, has, on account of structural differences which Mr. Ashmead considers important enough to give it generic rank, been placed in a new genus which he has named *Megapis*, the meaning of which is, *large bee*. Mr. Ashmead recognizes, in this new genus which he has erected, two species, *Megapis zonati* Smith, and *Megapis dorsata* Fabricius. The first of these is found in the Philippines, and in the Island of Celebes, and is a dark bee with the first two segments of the abdomen edged with a narrow band of light color. The body is somewhat more black than that of *dorsata*. The latter shows broad, bright, orange-colored bands across the abdomen, varying somewhat in different regions, almost the entire abdomen, in some cases, being orange-yellow, while in others the yellow shows on only three segments. It is recorded from India, Java, Ceylon, Borneo, Malay Archipelago, and the Philippines.

In the old genus *Apis* Mr. Ashmead recognizes seven species, namely: *Apis mellifera* Linnaeus; in all parts of the world (introduced). *A. cerana* Fabricius; Japan and China. *A. indica* Fabricius; India. *A. nigrocincta* Smith; India, China, Malay Peninsula, and the Philippines. *A. nigritarum* Lepelletier; Africa. *A. unicolor* Latreille; Madagascar. *A. florea* Fabricius; India.

While placing this last, which is the tiny East-Indian honey-bee, under the genus *Apis* for the present, Mr. Ashmead is really of the opinion that it should be put in a genus by itself, since it has structural characters which differentiate it greatly from the genus *Apis* as now restricted. He proposes, therefore, to erect for it the genus *Micrapis* (small *apis*).

While many who have examined these various types of bees may not be entirely agreed with Mr. Ashmead in his conclusions, especially as regards the species which he has seen fit to recognize under the genus *Apis*, still the subdivision of the hive or honey-bees into three distinct genera is a very natural one, and the pronounced characteristics which differentiate them would make it appear that the three general divisions will hold, so that hereafter we shall

have all honey-bees grouped under *Megapis*, *Apis*, and *Micrapis*.

Washington, D. C., Sept. 20, 1904.

TROPICAL NOTES.

The Possibilities of Bee-keeping in the Islands.

BY W. K. MORRISON.

Fine brass wire is best for wiring frames in the tropics; but it is a trouble to get it fine enough from local hardware firms.

In many parts of the West Indies the honey season can be lengthened out by carrying the bees to the mountains. The time to carry them is when the lowlands have become parched during the dry season. It rains more in the mountains. The combs must be wired for transport.

Alfalfa has been grown in the island of Grenada as an experiment for several years; and Mr. Jordan, the present agricultural instructor, has succeeded in growing it in Montserrat. There is a dry arid portion of Jamaica where it would probably grow well if irrigated. Alfalfa grows in immense fields around Bogota, the capital of Colombia.

Cypress is by long odds the superior of white pine for tropical use. Pine will last a long while if it is carefully protected from the rain, and kept up off from the ground. Hot melted beeswax brushed on a roof-board is a great protection. Boots may be rendered almost impervious to moisture if the seams are brushed with hot beeswax. Harness-dressing in rainy countries should contain a considerable amount of beeswax or it is of but little use.

For obvious reasons frozen honey is not popular in these latitudes, and it does not matter to us how it is cut. But good confectionery can be made with honey as a base; and where chocolate grows on the trees it ought to be easy to make a good confection.

Two Ideal supers with shallow extracting-frames and a zinc honey-board in between make a splendid wax-producing hive; and if the colony is fed a little in times of scarcity it is wonderful the amount of wax one colony can produce fixed up in this way. Don't feed too fast.

In the southern parts of South America are immense areas covered with the cardoon, a giant thistle which is a great bee-plant. It grows as tall as a man on horse-back, and it is a difficult proposition to ride through. The cardoon is an excellent vegetable, but the Southerners have too much of it.

There are some ideal locations for bees in the Bahamas; but life on a coral island is "awfully" lonely, and yet it was there that Columbus first set his foot in the new world. Probably the islands were more populous then than now. *Lippia*, *Lantana*, century plant, and mangrove are some of the leading honey-plants.

Panama is all right for American bee-

keepers, provided they don't like whisky, gin, or schnapps. The best place is the city of Panama. It is not much of a place for ladies.

Beeswax is selling at \$35 to \$37 per 112 lbs. in London. This means nearly \$750 for a ton of beeswax, and opens up a wonderful vista to tropical bee-masters who understand wax-production.

Some late shipments of logwood honey brought \$9.00 per cwt. in London. This is a fair price, but no more than the worth of the article. The chief competitors are alfalfa honey from Chili, and sage honey from California. The latter can get a dollar more.

Barbados may yet become a honey country, as the cultivation of cotton is rapidly extending. Barbados is probably the cleanest-cultivated country on the whole globe. Even on the roadside not a weed is seen. Anybody trying to introduce sweet clover into Barbados would fail. It would be pulled out by the roots at once and fed to the goats.

Increase is easy in warm latitudes—feed sugar syrup, and the bees will swarm right along; the same if you want queens—just feed—they'll come.

There are no tame bees in Cayenne, French Guiana, as yet. It is a grand country; and surely if the French are worth their salt they ought to see about this at once. If they didn't pull the buds of the clove-trees they could have clove honey. An American bee-keeper would believe himself in heaven if he were suddenly transported to the banks of the Oyapok. It is beautiful beyond compare, and no priority rights to be considered either.

The writer can indorse Mr. Woodward's views of West-Indian apiculture to the letter. Nothing will destroy the chances of the tropical honey industry quicker than the employment of cheap labor. It means bad results in every way. It requires skilled intelligent labor here as well as in Ohio. The only place to employ cheap labor is in wheeling the hand barrow and turning the crank of the extractor. Bee-keeping is admirably suited to white-skinned folks in the tropics for several reasons.

If there is danger of a hurricane, nail on your bottoms and tops, and set the hives on the ground. The writer did this in a hurricane, and came through it without the loss of a colony.

It is a pity some one does not import *Apis Indica* to these parts. It ought to succeed admirably in the West Indies. It is a smaller bee than ours, and the frames would require closer spacing. Regular worker foundation is converted into drone comb.

Some bee-keepers object to the shortened top-bar. They should drive the staples into the top-bar if it is too short for their use.

A small glue-pot, some wax, and a camel-hair brush are very nice to have when fastening foundation into shallow frames. Some people don't know this, and make sticks to wedge it in. Wax holds foundation better than wedges.

Wires may be imbedded into foundation by gravity. If the frames are laid flat for some time the foundation will eventually imbed itself if the weather is warm—not too warm. Practice will show when the conditions are right.

In some parts of the West Indies bees use wax instead of propolis to close up all spaces. It seems they can't get the latter substance very readily. The weather being always warm, the propolis does not hold hard, hence the use of the Hoffman frame.

There are small apiaries on nearly all of the Grenadine islands, though some are no larger than a common American farm. The largest is 3000 acres small. They would be grand places to breed queens if there were a way to ship them when bred. The inhabitants also hunt whales and breed ponies. The Virgin Islets also have some bee-keepers, so also have the Caicos Islands, where mangrove cuts a figure. The Turks Islands have no bees, for there are no flowers there except in flower-pots.

The fine little island of Curacao has some bee-keepers. Uncle Sam may yet own this little island, as the Dutch are talking about selling out some of their tropical possessions. It is Dutch from the ground up. It would suit the United States admirably, as it is a healthy little country.



Father, forgive them; for they know not what they do.—LUKE 23: 34.

This Home paper is to be mostly incidents from the talks at the recent five-days' session of the Anti-saloon League at Columbus. Monday and Tuesday, Nov. 14 and 15, the time was devoted to the Ohio Anti-saloon League—the other three days to the National League. By way of introduction, let me say this was one of the largest and most enthusiastic meetings ever held by this organization. There was no chance for any one in that gathering of thousands to get sleepy or dull, because the speakers were greeted almost constantly by the clapping of hands, shouts of "amen!" "that's so!" etc. From beginning to end it was one uninterrupted series of rejoicings. One member would get up and say that his State was all dry except certain counties, say half a dozen or a dozen out of nearly a hundred. A delegate from Vermont held up a map which had all the dry counties in white and the wet ones in black. He said, "Friends, this is the map I showed you a year ago, and I said at the time we were going to work hard to make a lot of those black spots come out white another year." Just at this point he let his map drop, which unfolded a new map just above it, both maps being thus exposed to the view of the audience, and, sure

enough, more than half of the black spots were made white; and, oh what rejoicing!

Hon. Charles E. Littlefield, from Maine, gave us a great array of facts and figures relative to prohibition in Maine. I have not space for a tenth part of them, but will give one item as nearly as I can from memory. He mentioned quite a number of prominent States in the Union, giving the consumption of liquor per capita. If I remember rightly, several States showed something like eight or ten dollars per annum for every man, woman, and child. I think Ohio had about \$2.00 or a little over; and the averages all along were from \$1.00 up to eight or ten times that much, as I have said. But in Maine it takes only *four cents* to furnish "drinks" for a year for every man, woman, and child. If I am correct, no other State in the Union comes anywhere near such a record. Then he told us of the results of such a degree of prohibition. These figures came from the United States Revenue Department, and can not be much out of the way. You will remember that Ernest, in his recent trip, corroborated this statement in regard to Maine.

At some town in Ohio they have recently had a hard fight, and the saloon-keepers boycotted a certain shoe-dealer because he took such a prominent stand against the "rummies;" but when the temperance people found it out the matter was talked up, and they sent out into the country among the farmers. One well-to-do man got so full of enthusiasm that he took his big team and hay-rack, and went all around the country hunting up poor families who were short of good shoes for winter. He took his load into the town, drove up before the shoe-store, and had this dealer, whose trade had dropped off to such an extent that he was in real trouble, fit out the whole load of juveniles. This got into the papers, and not only farmers but everybody else who loved temperance and righteousness flocked into that shoestore, and even bought shoes they did not need just then, to show their good will. This was carried on to such an extent that the shoe-dealer, before he knew it, was faced with almost empty shelves, and was obliged to send on for a fresh stock of the very latest up-to-date goods. But you should have heard the cheering and words of praise to God for this report.

Now, dear readers, is it not possible that you can do something along the same line to help along a righteous war in your own neighborhood? for we have abundant evidence that this same crusade is going on everywhere. Many of the Southern States are leaving us in the North away behind. In talking with a relative of mine in Xenia, where they have had a big conflict, not only in making a city of 10,000 inhabitants dry by law, but in cleaning out the police and other officers who were determined *not* to enforce the law, he told me that he had for years past had trouble in collecting his rents. He owns 23 different houses that are rented to people of moderate means. Well, since the

saloons have been abolished from the city (and those who attempted to sell *illegally* have been repeatedly brought to grief) he says not a single tenant has failed to pay up his rent promptly. When the saloons were running, drunkenness was his worst trouble. He was not only obliged to keep dismissing renters because of intemperance, but he lost a good deal of money every time a change was made. Now for my text and my story.

Rev. Charles Mitchell, pastor of the First M. E. Church of Cleveland, O., said something as follows:

"When I first commenced in the ministry I started in a little place in Kansas. In my boyish simplicity I very soon opened up without fear or favor on the saloon-keepers in our town. Pretty soon the proprietor of one of the oldest and worst saloons came to me and spoke about as follows: 'Young man, I confess I had rather taken a liking to you. You came in among us in a friendly sort of way, and went to work in right good earnest, and we all liked you. Now, I am an older man than you, and I have had some experience, and I should like to give you a little advice.' After a little more friendly and patronizing talk he wound up by saying, 'Now, young man, after this you attend to your own *damn* business, and I will attend to mine.'"

The young minister waited a little to catch his breath and to straighten up at such an insult, not only to himself but to God's people as well, and then replied:

"Yes, you will no doubt continue, my old friend, to attend to your own *damnable* business; and I want to tell you, too, that, so long as you *do* this, I will fight you and all the rest of your class just so long as God shall give me breath."

The speaker smiled pleasantly while he added, "As I have grown older it may be I have learned to be a little more careful, and perhaps not quite so vehement as when I was a boy; but I think I have kept my pledge pretty well in fighting this business from that time up to the present day."

It is well known there is a law in Cleveland, the home of this pastor, against having saloons open on Sunday; but he closed with a tone indicative of sadness by saying, "Dear friends, I do not know of a single saloon in the great city of Cleveland that is now kept closed on God's holy day. Some people complain because we say the saloon-keeper is a law-breaker. He can not succeed in his business without breaking the law. How does that statement look?"

One of the delegates from York State told us about going to a town to deliver a temperance lecture. The only hotel in the place contained a bar-room. The proprietor was so busy in said bar-room he could hardly be spared long enough to attend to a guest, even though that guest was a minister who was to stay with him over Sunday. Our friend was given a room right over the bar. The carousing was so great during the night he could not sleep. He finally got up

and went down to see what was going on. The whole gang was too drunk to notice him or to pay any attention to him. In his sermon the next Sunday morning he gave the full particulars, and called on the people of his congregation to take immediate steps to enforce the law and bring that hotel-keeper to a realizing sense of what he was doing. The inn-keeper did not go to church, of course; but the sermon got to his ears before the good pastor reached the hotel-door when he came home to dinner. Our friend of the bar was by the doorstep, and was going to forbid the pastor entering. He said, "I do not like such treatment. I will sue you at the law for damaging my house and my reputation."

But the Anti-saloon workers are generally men of pretty good courage. The man of God faced him and said, "My good friend, if I were you I think I would put on my good behavior just now, and be as quiet and civil as possible. You know as well as I do that you are breaking the law; and if you get off without prosecution you may consider yourself very lucky indeed."

This, of course, cooled down our irate friend, and he put it more mildly.

"But, my good sir, our regular parson and myself are good friends. He does not pitch into me and abuse me in that kind of way."

"Very true," was the reply. "Your parson is obliged to live here with you, and, to tell the truth, I am sorry for him; but I am a stranger. I shall soon go away and never see you again, perhaps. I am exactly the one to tell you these plain truths, and I tell them for your *own good*, my dear sir; and I try to do my duty well and faithfully before God."

Our worker was allowed to go in and get his dinner; but just as he was about to leave, the landlady came to the door and called, "Wait a minute, elder. I want to say to you, before you go, that you have a lot of friends out here in the kitchen. We women-folks are right with you; and if you had only had the courage to say to my husband when you first came last night what you said this morning, that shameful scene of last night would have never happened. Come again whenever you call this way."

Let us now consider a minute these two saloon-keepers — first the man who, with such a poor comprehension of the sacred calling of a minister of the gospel that he could say to him, "You attend to your *damn* business," and then this other one. At first our blood boils over with indignation to think that educated and refined men among God's ministering servants should be subject to such abuse as this. But when we reflect a little more, does it not indicate that these poor fellows are to be *pitied* as well as *blamed*? While we pray for them and the class they represent, can we not say, in the language of our text, "Father, forgive them; for they know not what they do,"?

Supt. E. S. Chapman, D.D., LL.D., of

California, who is sometimes called "Father Eloquent," on account of his wide celebrity as an orator, gave us perhaps the most thrilling and powerful argument of the whole session of five days. I will try in my feeble way to give you one of his strong points. Not long ago one of his daughters went to San Francisco to meet some friends. For some reason nobody at that special time was on hand to meet her at the depot. without any particular thought in regard to the matter, she showed her card to a fine-appearing young man who stood near, and who did not seem to be in such a hurry as some of the rest. He was very affable and polite, and he told her it would give him but very little trouble to go with her to her friend's, for it was not far away. Before they got out of sight, however, an old man hurried after them and called out "Stop!" At this the young lady turned around. The old gentleman, somewhat out of breath, said, "Young lady, this man is a villain. Come away from him this minute or you will get into trouble."

The young fellow began to show some signs of indignation; but the elderly man silenced him by a word, and he slunk out of sight as soon as possible. The old man then took the girl where she wished to go, and explained to her that it was right in an opposite direction. The speaker said he wished to digress a little to explain that this younger man was what is called a "procurer." In our large cities there are thousands of them employed. A few years ago he was in a city where a number of men were sitting out in front of a hotel. It was in the afternoon, and a great many women were passing along the street in front of the group. A young man well dressed and of pleasing manners sat there in conversation with the rest. All at once he started up and followed after a girl who passed. The older man said to the rest of the crowd something as follows: "Did you see that young man start up all of a sudden? Yes."

"Well, let me tell you something about him. He gets big pay from a certain institution here in the city. Young as he looks, he is an old hand in the business. He has learned by studying human nature, and particularly by studying *girls*, that there are certain ones he can approach without getting into trouble. He has learned by long experience so he can tell by a girl's actions and by her looks whether she is likely to be the one he wants. Now, what I am saying need not reflect on the girl's character at all. It is the innocent and unsuspecting he is after—those who have not learned the ways of the world, and he catches on to this by their air and manner. He will contrive in some way to get on speaking terms with the girl he has just followed. He will spend weeks and may be months in getting acquainted with her if she seems to be cautious. He will give fictitious references in regard to himself and family, for his employers see there is no lack of any thing that money can buy. Do you ask how he can sit around dressed

up in fine clothes, and spend his time in this way? Well, let me explain to you that he sometimes gets *five hundred dollars* for a single successful intrigue of this kind."

With the above explanation Bro. Chapman proceeded with his argument.

"Now, friends, suppose I had been near when my daughter started off with that young fellow. I am an old man. I have neither strength nor muscle. Suppose this young chap laughed at me when I made a protest. Would some of you tell me that it was not worth while to make such a fuss about it? Suppose they would say, 'Why, this thing is going on every day. They have got money and means, and it is no use for us to try to help ourselves. They are young and strong. We are feeble old men, and have only a lot of women to help us.' Why, if I should come here on this stage and tell you I gave up because the fellow was too strong for me, and had too many others around him, you would hiss me out of the room. It is my duty as a father to *give my life* to save my daughter, even if it is but throwing it away. Again: Suppose this young man, as he disappeared with my daughter behind a closed door, had reached back and offered me a roll of bills, say \$500, to keep quiet. Suppose he had suggested, 'My dear friend, you can take this money and build a nice sidewalk near your home and fix things up generally.' Now, what would you as American citizens say to an argument like that? Have I overdrawn it?"

At this there was a clapping of hands, and calls of "Not a bit!" until it seemed as if it would raise the roof. Then "Father Eloquent" added, in a way that nobody but himself could add, "My dear brothers and sisters, how much better is it for a man to devote his time and money to leading our *boys* astray instead of our *girls*?"

I was startled at the figure, and had just about decided in my own mind that, at least in the eyes of the world, it was a good deal worse to trap the girl than the boy; but to my surprise somebody called out, "Not a bit;" then another and another, until it seemed to be the united sentiment of that great concourse that the man who brings a boy down to ruin by deliberate and careful scheming, is just as bad as one who lures the daughter to *her* ruin.

At this point of the story he turned to some of the officers on the stage and asked the question, "My friends, what was it that the Governor of Ohio said when he objected to the Brannock bill? Have I been rightly informed when I am told he said, 'The Brannock bill as you have it is not *fair* to the *saloon-keeper*'?"

Several voices replied, "You have almost his exact words."

And now let me digress a little right here. You may remember I was present at that discussion in the Senate in regard to the Brannock bill. When I was told the governor said the above, my blood came up to boiling heat; but I did not know exactly

how to explain the cause of my indignation. Father Chapman straightened it out. Said he in substance, "The United States proposes to be fair, and to give every one a chance to defend himself, white or black, rich or poor, providing the criminal stands before the bar or behind locked doors. How, in God's name, can any right-thinking man (to say nothing of the governor of one of the grandest and most glorious States in the Union), suggest that we should be *fair* to the *midnight assassin*, to the highway robber, or to the house-breaker, while he is at large violating the law?"

Dear readers, it may seem a little hard right here at this stage of proceedings to quote our text and say, "Father, forgive them; for they know not what they do," especially when we change the scene from a poor ignorant untutored saloon-keeper, one who knows nothing of Jesus and his love, and apply it to the governor of Ohio, and say, "Father, forgive *him*; for *he* knows not what he does?"

When the Anti-saloon League was started it had the Gospel of Jesus Christ for its foundation; and it expects to carry its work through from beginning to end in the line of "Jesus and his love."

You who have read the papers know of the resolutions passed by churches and church conferences of all or nearly all the leading denominations, to the effect that the liquor business from beginning to end is a crime against our State and the whole United States, and that we can under no consideration consent to the nomination or election of a man who insists that criminals and outlaws shall have "fair play" in their warfare against temperance and religion, and society in general.

A speaker whose name I can not recall told us the following little story which I shall use to close with.

On one of the great lines of railway leading into the city of New York there has been for years employed a most skillful and reliable engineer. But notwithstanding his ability and many good qualities, this man was all his life a terribly profane man. When things went wrong he would outrival anybody else in his awful profanity, and nothing could stop him. This man had just one vulnerable point. He had a wife and a humble little home, and one little flaxen-haired girl. His little Mary was his constant companion when off duty; and when he went to his work she followed him to the gate, reached her little hand through the pickets, and waved it in parting. A part of his run passed so near his cottage she could reach out through the pickets and wave her hand at him as he ran by on his big locomotive; and never once in his life did he pass that cottage without looking for the idol of his heart. She had learned the exact time of day when he was expected to pass, and was almost invariably on hand. One day, as she was getting a little older, he noticed she tried to climb up so as to look over the top of the pickets; and then it flashed into his

mind that she might get caught, as children have in times before, and that very night he knocked a picket off so she could put her head through, and he could get a glimpse of her golden hair as she shouted after him endearing words and waved her little hand. One day little Mary fell sick of a fever; but the demands of his business were so great, and from the fact, besides, that there was almost no one else who could take his place on that exact run, the company urged him to stick to his post if it were a possible thing; and there he stayed until her case was a little dangerous. But he hoped to be back before any thing serious could happen. Long before he could get a glimpse of the cottage his eye was in that direction. Finally as he got nearer he saw something tied to the door that looked like black crape. There was the little gate with the picket off, but no golden-haired Mary. Through the blind-tears he saw there was no mistake. The crape was tied to the door. He put away his locomotive, and with fierce rebellious thoughts in his mind he approached the door. His poor wife, knowing what the probable result would be, came out to him in the yard; but even the sight of her and her suffering had little effect in quelling the rebellion in his soul. He cursed God. He cursed the day that gave him birth, the universe that brought forth men and women to live and suffer and die. He cursed the people who called God good; and finally when, from sheer exhaustion, he ceased for a moment, his poor wife, with her head bowed on his shoulder, between her sobs tried to tell him that little Mary left a message for him. At this he brightened up just a little, and eagerly asked what that message was. The poor wife as well as she could said something as follows: "Mary said, 'Tell dear papa not to feel bad. Tell him I will be waiting for him. Tell him I will ask Jesus to "knock a picket off," and say I will be sure to be there, and look out and wave my hand to tell him *where* to come. I know he will come, mama, for he will be sure to come where his little Mary is. Tell him not to forget, for I *will* be there sure.'" Little by little the man began to sober down. He asked to have the message repeated over and over. Slowly but surely he emerged from the darkness of unbelief into the light of faith and trust in Jesus Christ; and, in broken words, said, "God, have mercy on *me*, a sinner." "Clothed, and in his right mind," he sat at the feet of the Savior, a new-born soul. I can imagine the angels from heaven, looking down. I can imagine little Mary among that shining throng; and I can imagine their voices saying, "Father, forgive him; for he knew not what he did."

And now, dear friends, while we work to abolish the saloons and all the other attendant evils that are linked to them, let us do it in the spirit that was in Christ Jesus our Savior when he said of those who cruelly nailed him to the cross, "Father, forgive them; for they know not what they do."